

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

UNITED STATES OF AMERICA

v.

MATTHEW CONNOLLY and
GAVIN CAMPBELL BLACK,

Defendants.

No. 1:16-cr-00370 (CM)

ECF Case

NOTICE OF EXPERT TESTIMONY

Pursuant to Fed. R. Crim. P. 16(a)(1)(G), Defendant Gavin Campbell Black gives notice of his intention to present the expert testimony of Dr. Jonathan Arnold, whom Mr. Black may offer as an expert in economics, financial economics, statistics, econometrics, and financial markets. A copy of Dr. Arnold's Curriculum Vitae is attached as Exhibit A.

Mr. Black anticipates that Dr. Arnold may provide testimony related to the following matters as they existed during the period alleged in the Superseding Indictment (the "Relevant Period"):

- Dr. Arnold may provide testimony concerning the London Interbank Offer Rate ("LIBOR"), including that:¹
 - LIBOR was defined by the British Bankers' Association ("BBA"), which administered LIBOR during the Relevant Period, as: "the rate at which a Contributing Panel Bank could borrow funds should it wish to do so, by asking for and then accepting inter-bank offers in a reasonable market size just prior to 1100" London time. *See, e.g., Instructions to BBA LIBOR Contributor Banks.*

¹ For the avoidance of doubt, Dr. Arnold will not offer an opinion as to the expectations of the BBA.

- LIBOR was calculated for a number of different currencies at 11am London time each day. Banks that contributed to the daily calculation of LIBOR were known as Contributor Banks. Of particular relevance in this case is the US Dollar LIBOR (“USD LIBOR”), for which there were 16 Contributor Banks.
- The BBA used a trimmed mean to calculate USD LIBOR. Under the BBA’s methodology (the “LIBOR Calculation Method”), USD LIBOR was calculated by ranking the Contributor Bank submissions. The submissions that ranked in the top and bottom quartiles were eliminated and the submissions in the two remaining quartiles were averaged.
- Because the LIBOR Calculation Method used a trimmed mean, it had the effect of assigning zero weight to the four highest and lowest submissions, thereby placing weight only on the remaining eight submissions. The weight of each of the eight remaining submissions was 1/8.
- The cost of borrowing funds in the interbank lending market reflected, among other things, market conditions, events and indicators that could have affected risks inherent to the lending and borrowing of funds, including but not limited to counterparty credit and liquidity risks. Therefore, these market conditions, events and indicators could have affected a Contributor Bank’s USD LIBOR submissions.
- In financial markets, products known as derivatives are financial instruments that derive their value from another product.
- In a typical Forward Rate Agreement (“FRA”), one party agrees to pay the other party to the agreement an amount at a point in the future (the “Expiry Date”). The amount paid is calculated based on the interest rate on the Expiry Date (the “Rate”) and an agreed-upon

sum of money (the “Notional Amount”). The party making the payment is known as the Payer. The party receiving the payment is known as the Receiver.

- An Interest Rate Future (“Future”) is an instrument similar to a FRA, where one party to the agreement is an entity known as a clearing house. A clearing house acts as an intermediary between buyers and sellers of certain financial instruments, in this case, Futures.
- In a typical Interest Rate Swap (“IRS”), one party agrees to pay the other party to the agreement a certain amount, calculated using interest at one rate (“Rate A”) on a given Notional Amount, and receives from the other party an interest-based payment calculated using another interest rate (“Rate B”) on the Notional Amount. Payments are calculated and made on dates specified in the agreement.
- Deutsche Bank’s USD LIBOR submissions as identified by the Government in the Superseding Indictment and the Government’s Summary Exhibits 1-454, 1-455, and 1-456 (the “Operative Submissions”) are economically reasonable. Dr. Arnold considered multiple factors in reaching this conclusion, including, but not limited to: Deutsche Bank’s activity in the interbank lending market; trends in USD LIBOR submissions; comparative changes in USD LIBOR submissions; and relevant market conditions, events and indicators.
- An analysis of the data produced by the Government, including Deutsche Bank’s RMS and Kondor transactional data and its interbank lending data, is inconsistent with the Government’s theory of alleged manipulation for at least the following reasons:
 - The Government failed to provide discovery, including data that substantiates the alleged theory of manipulation;

- The totality of the trading positions held by Deutsche Bank traders and/or counterparties throughout the Relevant Time Period does not establish the alleged conspiracy;
- Using Mr. Black's trading positions as produced by the Government, Mr. Black's trading books were not positioned to have benefitted from various of the Operative Submissions;
- The data provided by the Government does not establish that Deutsche Bank counterparties were positioned to be harmed by various of the Operative Submissions;
- Using the alleged co-conspirators' trading positions as produced by the Government, the alleged co-conspirators were inconsistently positioned on various of the Operative Submission dates; and
- Regardless of whether the Government contends that an alleged request was incorporated into an Operative Submission, the Operative Submissions are economically reasonable. To the extent the Government contends that an alleged request was not incorporated into a corresponding Operative Submission, the alleged request could not have had any impact on the calculation of USD LIBOR.
- Mr. Black reserves the right to have Dr. Arnold address any or all statements made by witnesses or experts or through demonstratives or exhibits that fall within the topics above or generally in the fields of economics, financial economics, statistics, econometrics, and financial markets.

In evaluating the above topics and in forming these opinions, Dr. Arnold had access to all materials produced by the Government, as well as publicly available materials concerning the publication of LIBOR during the Relevant Period, including, but not limited to, BBA-published statements.

* * *

Mr. Black reserves all rights, including the right to update, amend and/or supplement this Notice in full or in part, based on further developments, including additional documents received, Court orders or to rebut any testimony or arguments presented by the Government during its case-in-chief.

Respectfully submitted,

/s/ Seth L. Levine

Seth L. Levine

Scott B. Klugman

Miriam L. Alinikoff

LEVINE LEE LLP

650 Fifth Avenue, 13th Floor

New York, New York 10019

Telephone: (212) 223-4400

Facsimile: (212) 223-4425

Attorneys for Defendant Mr. Black

EXHIBIT A



JULY 2018

CURRICULUM VITAE

Jonathan I. Arnold, Ph.D.

jonathan.arnold@chicagoecon.com

EDUCATION:

Ph.D. Business Economics, Graduate School of Business, The University of Chicago

M.B.A. Finance and Accounting, The University of Chicago Graduate School of Business

B.A. Economics, The University of Chicago

PROFESSIONAL EXPERIENCE SINCE 1995:

2013 - *Senior Consultant*, Compass Lexecon.

2013 - *Testifying Expert Economist*, Chicago Economics Corp.

2012 - 2013 *Chief Economist*, Office of the Attorney General, New York State

2006 - 2012 *Managing Principal*, Analysis Group, Inc.

1995 - 2006 *Principal*, Chicago Partners

TESTIMONY - SINCE 2014:

- Expert Report in *Jo Ann Howard and Associates v. J. Douglas Cassity, et al.*, U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (July 2018)
- Deposition in *Eagle View Technologies v. Xactware Solutions*, U.S. District Court for the District of New Jersey, Civil Action No. 15-cv-07025. (May 2018)
- Expert Report in *State of Washington v. LG Electronics*, Superior Court of King County, Washington, Case No. 12-2-15842-8. (May 2018)
- Rebuttal Expert Report in *Eagle View Technologies v. Xactware Solutions*, U.S. District Court for the District of New Jersey, Civil Action No. 15-cv-07025. (May 2018)
- Expert Report in *Eagle View Technologies v. Xactware Solutions*, U.S. District Court for the District of New Jersey, Civil Action No. 15-cv-07025. (May 2018)

- Expert Report in *Eagle View Technologies v. Xactware Solutions*, U.S. District Court for the District of New Jersey, Civil Action No. 15-cv-07025. (April 2018)
- Testimony *In the Matter of Certain Two-Way Radio Equipment and Systems, Related Software and Components Thereof*, United States International Trade Commission, Washington, D.C., Investigation No. 337-TA-1053. (January 2018)
- Deposition *In the Matter of Certain Two-Way Radio Equipment and Systems, Related Software and Components Thereof*, United States International Trade Commission, Washington, D.C., Investigation No. 337-TA-1053. (November 2017)
- Expert Report *In the Matter of Certain Two-Way Radio Equipment and Systems, Related Software and Components Thereof*, United States International Trade Commission, Washington, D.C., Investigation No. 337-TA-1053. (October 2017)
- Deposition *in re Avaya*, U.S. Bankruptcy Court of the Southern District of New York, Ch. 11, Case No. 17-10089. (October 2017)
- Expert Report *in re Avaya*, U.S. Bankruptcy Court of the Southern District of New York, Ch. 11, Case No. 17-10089. (October 2017)
- Deposition in *Stark Master Fund Ltd. and Stark Global Opportunities Master Fund Ltd. v. Credit Suisse Securities*, U.S. District Court for the Eastern District of Wisconsin, No. 14-cv-689. (August 2017)
- Testimony in *The Financial Oversight and Management Board for Puerto Rico, as representative of The Commonwealth of Puerto Rico* (PROMESA Title III No. 17 BK 3283-LTS); in re: *The Financial Oversight and Management Board for Puerto Rico, as representative of Puerto Rico Highways & Transportation Authority* (PROMESA Title III, No. 17 BK 3567-LTS); *Peaje Investments v. Puerto Rico Highways & Transportation Authority* (Adv. Proc. No. 17-151-LTS in 17 BK 3567-LTS and Adv. Proc. No. 17-152-LTS in 17 BK 3283-LTS) (August 2017)
- Rebuttal Expert Report in *Stark Master Fund Ltd. and Stark Global Opportunities Master Fund Ltd. V. Credit Suisse Securities*, U.S. District Court of the Eastern District of Wisconsin, No. 14-cv-689. (August 2017)
- Deposition in *The United States of America, ex rel., John H. Oberg v. Pennsylvania Higher Education Assistance Agency*, U.S. District court of the Easter District of Virginia, No. 1:07-cv-00960-CMH-JFA. (August 2017)
- Deposition in *The Financial Oversight and Management Board for Puerto Rico, as representative of The Commonwealth of Puerto Rico* (PROMESA Title III No. 17 BK 3283-LTS); in re: *The Financial Oversight and Management Board for Puerto Rico, as representative of Puerto Rico Highways & Transportation Authority* (PROMESA Title III, No. 17 BK 3567-LTS); *Peaje Investments v. Puerto Rico Highways & Transportation Authority* (Adv. Proc. No. 17-151-LTS in 17 BK 3567-LTS and Adv. Proc. No. 17-152-LTS in 17 BK 3283-LTS) (July 2017)
- Declaration in *The Financial Oversight and Management Board for Puerto Rico, as representative of The Commonwealth of Puerto Rico* (PROMESA Title III No. 17 BK 3283-LTS); in re: *The Financial Oversight and Management Board for Puerto Rico, as representative of Puerto Rico Highways & Transportation Authority* (PROMESA Title III, No. 17 BK 3567-LTS); *Peaje Investments v. Puerto Rico Highways & Transportation Authority* (Adv. Proc. No. 17-151-LTS in 17 BK 3567-LTS and Adv. Proc. No. 17-152-LTS in 17 BK 3283-LTS) (July 2017)

- Expert Report in *Stark Master Fund Ltd. and Stark Global Opportunities Master Fund Ltd. V. Credit Suisse Securities*, U.S. District Court of the Eastern District of Wisconsin, No. 14-cv-689. (July 2017)
- Expert Report in *The United States of America, ex rel., John H. Oberg v. Pennsylvania Higher Education Assistance Agency*, U.S. District court of the Easter District of Virginia, No. 1:07-cv-00960-CMH-JFA. (June 2017)
- Deposition in *The State of Illinois v. Hitachi*, Circuit Court of Cook County, Illinois, County Department, Chancery Division, Case No. 2012-CH-35266. (April 2017)
- Hearing Testimony in *Arista Networks, Inc. v. Cisco Systems, Inc.*, International Trade Commission Washington, DC., Investigation No. 337-TA-977. (April 2017)
- Deposition in *Arista Networks, Inc. v. Cisco Systems, Inc.*, International Trade Commission Washington, D.C., Investigation No. 337-TA-977. (February 2017)
- Second Supplemental Expert Report in *Arista Networks, Inc. v. Cisco Systems, Inc.*, International Trade Commission Washington, DC., Investigation No. 337-TA-977. (February 2017)
- Supplemental Expert Report in *Arista Networks, Inc. v. Cisco Systems, Inc.*, International Trade Commission Washington, DC., Investigation No. 337-TA-977. (February 2017)
- Expert Report in *Arista Networks, Inc. v. Cisco Systems, Inc.*, International Trade Commission Washington, DC., Investigation No. 337-TA-977. (January 2017)
- Rebuttal Expert Report in *The State of Illinois v. Hitachi*, Circuit Court of Cook County, Illinois, County Department, Chancery Division, Case No. 2012-CH-35266. (January 2017)
- Court Testimony in a consolidated proceeding comprising *Brigade Leveraged Capital Structures Fund v. Alejandro Garcia-Padilla* (16-1610), *National Public Finance Guarantee v. Alejandro Garcia-Padilla* (16-2101), *Dionisio Trigo-Gonzalez v. Alejandro Garcia-Padilla* (16-2257), and *U.S. Bank Trust National Association v. The Commonwealth of Puerto Rico* (16-2510), U.S. District Court, District of Puerto Rico. (September 2016)
- Deposition in *MyFord Touch Consumer Litigation*, U.S. District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC. (September 2016)
- Responsive Damages Expert Report in *MyFord Touch Consumer Litigation*, U.S. District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC. (September 2016)
- Expert Report in *The State of Illinois v. Hitachi*, Circuit Court of Cook County, Illinois, County Department, Chancery Division, Case No. 2012-CH-35266. (August 2016)
- Deposition in *Philips v. Ford*, U.S. District Court, Northern District of California, San Jose Division, Case No. 5:14-cv-02989-LHK. (August 2016)
- Trial Testimony in *Nortek Air Solutions v. Energy Labs*, U.S. District Court, Northern District of California, San Jose Division, Case No. 5:14-cv-02919-BLF. (August 2016)
- Damages Expert Report in *MyFord Touch Consumer Litigation*, U.S. District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC. (August 2016)

- Expert Report in *Philips v. Ford*, U.S. District Court, Northern District of California, San Jose Division, Case No. 5:14-cv-02989-LHK. (July 2016)
- Responsive Expert Report in *MyFord Touch Consumer Litigation*, U.S. District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC. (May 2016)
- Supplemental Declaration Lena K. Thodos and David Miller, et al v. Nicor, Inc. Northern Illinois Gas Company, U.S. Circuit Court of Cook County, Illinois County Department, Chancery Division, Case No. 11CH06556. (April 2016)
- Deposition in *Nortek Air Solutions v. Energy Labs*, U.S. District Court, Northern District of California, San Jose Division, Case No. 5:14-cv-02919-BLF (March 2016)
- Expert Report in *Nortek Air Solutions v. Energy Labs*, U.S. District Court, Northern District of California, San Jose Division, Case No. 5:14-cv-02919-BLF (February 2016)
- Deposition in *MyFord Touch Consumer Litigation*, U.S. District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC. (February 2016)
- Deposition in *Richard S. Stack, M.D. v. Abbott Laboratories, Inc.*, U.S. District Court, Middle District of North Carolina, Case No. 1:12-CV-148. (January 2016)
- Expert Report in *MyFord Touch Consumer Litigation*, U.S. District Court, Northern District of California, San Francisco Division, Case No. 13-cv-3072-EMC. (January 2016)
- Deposition in *Lena K. Thodos and David Miller, et al v. Nicor, Inc. Northern Illinois Gas Company*, U.S. Circuit Court of Cook County, Illinois County Department, Chancery Division, Case No. 11CH06556. (December 2015)
- Expert Report in *Richard S. Stack, M.D. v. Abbott Laboratories, Inc.*, U.S. District Court, Middle District of North Carolina, Case No. 1:12-CV-148. (December 2015)
- Declaration in *Russell Dover v. British Airways*, U.S. District Court, Eastern District of New York, Case No. 1:12-CV-05567. (November 2015)
- Declaration in *Lena K. Thodos and David Miller, et al v. Nicor, Inc. Northern Illinois Gas Company*, U.S. Circuit Court of Cook County, Illinois County Department, Chancery Division, Case No. 11CH06556. (October 2015)
- Deposition in *Jo Ann Howard and Associates v. J. Douglas Cassity*, U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (October 2015)
- Supplemental Expert Report in *Russell Dover v. British Airways*, U.S. District Court, Eastern District of New York, Case No. 1:12-cv-05567. (September 2015)
- Deposition in *Russell Dover v. British Airways*, U.S. District Court, Eastern District of New York, Case No. 1:12-cv-05567. (August 2015)
- Rebuttal Expert Report in *Russell Dover v. British Airways*, U.S. District Court, Eastern District of New York, Case No. 1:12-cv-05567. (June 2015)
- Expert Report in *Russell Dover v. British Airways*, U.S. District Court, Eastern District of New York, Case No. 1:12-cv-05567. (May 2015)

- Expert Report in Thomas & Betts International v. Burny, U.S. District Court, Western District of Tennessee, Case No. 2:14-cv-2296-JPM-tmp. (April 2015)
- Testimony in Jo Ann Howard and Associates v. J. Douglas Cassity, U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (March 2015)
- Deposition in Jo Ann Howard and Associates v. J. Douglas Cassity, U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (February 2015)
- Deposition in Jo Ann Howard and Associates v. J. Douglas Cassity, U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (January 2015)
- Expert Report in Jo Ann Howard and Associates v. J. Douglas Cassity, U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (January 2015)
- Reply Declaration in Cryolife, Inc. v. C.R. Bard, Inc., U. S. District Court of the District of Delaware, Case No. CV-14-00559-SLR. (January 2015)
- Declaration in Cryolife, Inc. v. C.R. Bard, Inc., U. S. District Court of the District of Delaware, Case No. CV-14-00559-SLR. (September 2014)
- Expert Report in Illinois Pension Litigation, Circuit Court for the Seventh Judicial Circuit, Sangamon County Illinois, Case No. 2014-MR1. (August 2014)
- Deposition in Jo Ann Howard and Associates v. J. Douglas Cassity, et al., U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (August 2014)
- Expert Report in Jo Ann Howard and Associates v. J. Douglas Cassity, et al., U.S. District Court Eastern District of Missouri, Case No. 09-CV-1252-ERW. (July 2014)
- Testimony in SolidFX, LLC v. Jeppesen Sanderson, Inc., U.S. District Court, District of Colorado, Case No. 11-CV-1468. (April 2014)
- Supplemental Expert Report in SolidFX, LLC v. Jeppesen Sanderson, Inc., U.S. District Court, District of Colorado, Case No. 11-CV-1468. (April 2014)
- Deposition in Noble Systems Corporation v. TRG Holdings LLC, JAMS, Case No. 1440003731. (April 2014)
- Expert Report in Noble Systems Corporation v. TRG Holdings LLC, JAMS, Case No. 1440003731. (March 2014)
- Affidavit in Lena K Thodos and David Miller, et al v. Nicor, Inc. Northern Illinois Gas Company, U.S. Circuit Court of Cook County, Illinois County Department, Chancery Division, Case No. 11CH06556. (February 2014)

TEACHING EXPERIENCE:

- **Columbia University and Duke University**
Guest Lecturer (2002 – 2004)
- **The University of Chicago, Department of Economics and Graduate School of Business**
Lecturer (1998 – 1999)

Taught microeconomics (topics included price theory, industrial organization, capital theory, principles of labor economics, and durable goods economics)

- **Loyola University Chicago School of Law**

Lecturer of Law (1997 – 1998)

Taught antitrust economics

PROFESSIONAL AFFILIATIONS:

American Economics Association

OTHER:

Certified Public Accountant